MILLER, Ye.V., kand.tekhn.nauk; MAKAROV, A.K., inzh.

Comparative evaluation of the economic effectiveness of switching commutational and noncontact-type systems of automatic control. Elektrotekhnika 36 no.12:40-43 D '65. (MIRA 19:1)

L 43803-66

ACC NR: AP6013744

button forms a segment of the magnetic path. As long as the pushbutton is not depressed, there is no output voltage. Actuation of the pushbutton completes the magnetic path in the transformer thus inducing the output voltage in the secondary. This output serves as a remote signal from the central control unit. Several versions of the new transmitting unit for different purposes are available. A total of 58 logical modulus were needed to construct an elevator control system in a six story building. The system was built by the Lenvodpribor factory and installed in a building in 1964. This experimental installation has confirmed the high reliability of the contactless system. Orig. art. has: 6 figures.

SUB CODE: 09/13/ SUBM DATE: none

Card 2/2

L 43801-66 EWT(d)/EWP(v)/EWT(k)/EWP(h)/EWP(l) BC

ACC NR: AP6013744 (A) SOURCE CODE: UR/0118/65/000/012/0030/0032

45
44

AUTHOR: Babayev, O. B. (Engineer); Makarov, A. K. (Engineer)

ORG: none

TITLE: Contactless system for elevator control

SOURCE: Mekhanizatsiya i avtomatizatsiya proizvodstva, no. 12, 1965, 30-32

TOPIC TAGS: industrial elevator, automatic control equipment, logic element, transistorized amplifier

ABSTRACT: A contactless control system for passenger elevators, using semiconductor logical elements and contactless transmitting units is described. The prime aim of this development was to increase the reliability and maintainability of elevators. The control system incorporates several types of logical modules using diode transistors and two-stage transistorized amplifiers to drive the signal lights, contacts and magnetic shunts. All command, control and decision functions, normally performed by contact switches and relays in conventional elevator systems, are executed by the contactless elements, with the exception of the contactors and the emergency stop devices where the costs of replacement would have been unjustifiably high. A low voltage two-winding transistor in which the output voltage is controlled by a variable magnetic path is used in place of the usual contact type pushbuttons. The shaft of the push-

UDC: 621.876.114:62-519.002.5

Card 1/2

MAKAROV, A.K.; PILYAVSKAYA, A.Ye.

Materials on the biology of the Black Sea shrimp Leander adspersus Rathke. Trudy Karad.biol.sta. no.11:92-109 '51. (MLRA 6:9)
(Black Sea--Shrimps) (Shrimps--Black Sea)

MAKAROV, A. K.

Mbr., Dept. of Hydrobiology, Odessa State Univ., im. I. L. Mechnikova, -1939-.

Hydrobiology.

"Certain New Elements in the Composition of the Fauna of the Black Sea Limans as an Effect of Maritime Navigation,"

SO: Dok. AN, 23, No. 8, 1939.

TEVEROVSKIY, Ye.N.; ANDRIANOV, A.P.; MAKAROV, A.I.; AL'PEROVICH, M.A.

"Aerodynamic of industrial apparatus." by I.E. Idel'chik. Reviewed by Teverovskiy, Ye.N., Andrianov, A.P., Makarov, A.I., Al'perovich, M.A. Khim. prom. 41 no.3:241 Mr '65. (MIRA 18:7)

ACC NR: AP6036719

elements did not permit conducting a thorough investigation. Tests in "yes-no" circuits were conducted at frequencies up to 2.5 cps (some up to 10 cps), at 25C and 40—70% humidity; the elements were regarded as nonrepairable equipment; supply pressure, 1—4 kg/cm ; twelve different types of elements were tested. The values of the mean time to failure are tabulated. It was found that: (1) Relay-type elements have a least reliability in the 2.5—5-cps range; (2) The mean time to failure for diaphragm- and shutter-type elements has the same order of magnitude and is practically independent of their circuits; (3) The use of a supply pressure of 1 kg/cm^2, instead of 1.4 kg/cm^2, increases the reliability of the elements tenfold; (4) Generally, the failures were caused by wear, and their distribution seems to obey the normal law. Details of tests and hints for modernization are discussed. Orig. art. has: 4 figures, 4 formulas, and 1 table.

SUB CODE: 13 / SUBM DATE: none / ORIG REF: 002

Card 2/2

ACC NR: AP6036719 SOURCE CODE: UR/0119/66/000/011/0025/0027

AUTHOR: Varlamov, G. K. (Engineer); Makarov, A. I. (Engineer); Nikolayev, S. A. (Engineer); Polevaya, Zh. A. (Engineer); Shvartsman, L. D. (Engineer)

ORG: none

TITLE: Investigating reliability of USEPPA discrete elements

SOURCE: Priborostroyeniye, no. 11, 1966, 25-27

TOPIC TAGS: pneumatic control element, pneumatic control system / USEPPA pneumatic control system

ABSTRACT: The preliminary results are reported of an investigation of reliability of USEPPA pneumatic-control elements fabricated by the Ust'-Kamenogorsk Instrument Plant. Lack of time and continuous modernization of

Card 1/2 UDC: 62.525"401.7"

Scrubbing of Ferromanganese Gas of Dust

necessary to build 2-3 ventury sprayers for each plant so as to enable their isolation in turn for cleaning from solid deposits. There are 11 figures, 3 tables and 4 references of which 3 are Soviet and 1 English.

ASSOCIATION: NIIOGAZ i Kosogorskiy Metallurgicheskiy Zavod (NIIOGAZ and Kosaya Gora Metallurgical Works)

Scrubbing of Ferromanganese Gas of Dust

velocity of gas in the active zone of electrostatic precipitator in fig.11. The results obtained indicated the suitability of the equipment for the fine cleaning of gas. The basic problem which still requires solution is the prevention of the formation of solid deposits, particularly in the ventury sprayer. During tests 20 mm thick deposits were formed in the outlet of the diffuser in 10 days which prevented its further operation. On the basis of the results obtained the following conclusions are drawn: 1) fine cleaning of blast furnace gas from ferromanganese furnaces can be carried out in an electrostatic precipitator with a preliminary cleaning in the ventury sprayer at a gas velocity in the active zone of the electrostatic precipitator of the order of 1.5 m/sec and the hydraulic resistance in the sprayer of 300-350 mm H_2O. 2) In spite of the insignificant depositions of solids on the hurdles in the scrubber, the use of non-filled scrubber is recommended. 3) For the industrial application of the gas cleaning scheme it is

Card 5/6

therefore the "turbulent washer" was found to be inadequate for the purpose. The operation of the electrostatic precipitator was tested in conjunction with the ventury sprayer and hurdled scrubber. The supply of water to ventury was constant and amounted to 1000 litres/hr of which 300 litres/hr passed through the central sprayer and 700 litres/hr in the form of peripheral film, the specific consumption of water was from 0.1 to 0.27 litres/m³ and from 0.25 to 0.60 litres/m³ respectively. Specific consumption of water in the scrubber was 3-4 litres/m³ of gas. Consumption of water in the electrostatic precipitator was 300-350 litres/hr per peripheral metre of hurdles. Periodic washing of electrodes was done twice per shift for 10-12 minutes. The experimental results are given in table 3. The dependence of the dust content of clean gas on the density of corona current and on the voltage of feeding current are given in figures 8 and 9 respectively, the dependence of the dust content at the inlet and outlet of the electrostatic precipitator on the hydraulic resistance of the ventury sprayer in fig.10 and the dependence of the dust content in clean gas on the

Scrubbing of Ferromanganese Gas of Dust

The scrubber, of a diameter of 200 mm with two rows of hurdles (fig.5), was calculated for a gas velocity of 1.5 m/sec. Water for spraying the hurdles was supplied through 8 sprayers. The electrofilter of the DM type (fig.6) 1500 mm in diameter contained 7 precipitating tubes with an internal diameter of 300 mm (external 325 mm) which were continuously washed. An additional periodic washing of precipitating tubes and electrodes with "revolvant" sprayers was provided. The chemical composition of samples of flue dust and their size distribution and chemical composition of the individual size fractions are given in tables 1 and 2 respectively. Flue dust possesses hydraulic properties - on decreasing moisture content to 50% it solidifies. Tests of the "turbulent washer" (ventury sprayer and cyclone) as a complete unit indicated, that at the average dust content of dirty gas of 10 gr/m^3 the residual dust content from 200 to 150 mg/m^3 at a hydraulic resistance of the ventury tube from 700-900 mm of water respectively (fig.7). The above dust content is above the permissable limits and

Card 3/6

Scrubbing of Ferromanganese Gas of Dust

gas after the ventury sprayer could be directed either to the cyclone (in order to test "turbulent" washer as a self-contained cleaning plant) or into the scrubber followed by an electrostatic precipitator (in order to test electrostatic precipitator with a preliminary washing in the ventury sprayer as a self contained plant). In both cases the cleaned gas was discharged into the atmosphere. The dimensions of the ventury sprayer (fig.2) were so calculated as to obtain a gas velocity in the ventury about 115 m/sec at a throughput of about 1600 m^3/hr. Water for spraying was supplied through a tube situated along the ventury axis, with 16 nozzles of 2.5 mm in diameter. To prevent the sedimentation of dust on the surface of the tube a continuous film of water, along the whole perimeter, was maintained (see fig.3). The consumption of water for the latter was constant (610-670 l/hr per linear metre of tubes periphery). For the same reason water was supplied to the cyclone of 440 mm in diameter (fig.4) in an amount of 600 litres/hr through four injectors placed tangentially to the internal cross section of the apparatus (at an angle of 8-10°).

SOV/136-59-2-25/26

AUTHORS: Zaytsev, M.M., Makarov, A.I., Tarnavskiy, I.P. and Tseytlin, A.Ya., Engineers

TITLE: Scrubbing of Ferromanganese Gas of Dust (Ochistka ferromargantsevogo gaza ot pyli)

PERIODICAL: Stal', 1959, Nr 2, pp 181-188 (USSR)

ABSTRACT: The results of an investigation on the most suitable method of cleaning blast furnace gas from ferromanganese furnaces carried out on a pilot plant installation are described. There are two specific features in cleaning blast furnace gas from ferromanganese furnaces. 1) a large amount of fine particles and 2) on wet cleaning solid deposits are formed on the working surfaces of the gas cleaning plant which rapidly decrease the efficiency of cleaning and necessitate stoppages for cleaning of the plant. The lay out of the experimental plant is shown in figures 1 and 2. It consisted of a "turbulent washer" (a combination of a ventury sprayer and cyclone), scrubber with hurdles, electrostatic precipitator, high pressure blower used as a transporting installation and measuring apparatus. The plant was designed in such a way that the

Card 1/6

The Continuous Control of the Dust Content of Gases (cont.)

of the thermoelement circuits for setting the instrument at the zero electrical position. A 300 Watt/ ($\mathcal{E}$ = 10 v) bulb is placed in the apparatus as a light source and is fed through the stabilovolt. The smoke meters can have various electrical circuits: compensated and noncompensated. Photocells are sometimes used instead of thermoelements. It is necessary to ensure stable voltage in the power supply to the lamp, and the cleanliness of all the elements of the optical part of the system, for stable smoke-meter operation. The smoke meters with a one-sided fixing and a compensated electrical circuit proved satisfactory in operation over a period of 15 days. The lenses did not require wiping during this period. The smoke meters were tested in operation on flue gases from the combustion of coal dust from the Moscow area coal and from lean coal. The smoke meters were used in determining the dust content of gas which had passed through two-stage cleaning, consisting of a battery of cyclones (a multicyclone) and an electrical filter. In determining the dust concentration in the gas, an accuracy to within 15 to 20 per cent was obtained with the smoke meter. N.F.D.

ASSOCIATION: State Scientific Research Institute of Gas Purification for Industry and Sanitation (NIIOGAZ).

MAKAROV, A.I

112-2-2884

Translation from: Referativnyy Zhurnal, Elektrotekhnika, 1957, Nr 2, p. 45 (USSR)

AUTHOR: Makarov, A. I.

TITLE: The continuous Control of the Dust Content of Gases (Nepreryvnyy kontrol' zapylennosti gazov)

PERIODICAL: Tr. konferentsii po voprosam zoloulavliv., shlakozoloudaleniya i shlakozoloispol'zov. Moscow, Gosenergoizdat , 1955, pp. 55-60

ABSTRACT: NIIOGAZ has developed an optical instrument (a smoke meter) for continuous (automatic) control of gas dust content under operating conditions. The smoke meter functions by measuring the intensity of a beam of light as it passes through a dust-laden gaseous medium. In the smoke meter equipped with a compensated electric circuit and a one-sided fixing, the beam of light from the incandescent lamp passes through a lens and falls onto a flat mirror from which the greater part of it is reflected and is directed to the gasduct. After passing through the layer of flue gas, the rays fall on a concave mirror, from there they pass through an opening to a collecting lens, and then to the thermoelement. Having passed through the lens, a part of the rays continue directly through an opening in the mirror to a collecting lens and from there to a second thermoelement. The thermoelements are connected face to face so that the milli-voltmeter in the circuit shows the difference between the e.m.f's generated. A by-pass resistor is built in one

Card 1/2

MAKAROV, A.F.
MAKAROV, A.I.

"Nepreryvnyy Kontrol' Zapylennosti Gazov. V Kontse Pervogo Razdela Dan Obzor Dokladov Po Voprosy Zoloulavlivaniya," Proceedings of a Conference on Problems of Ash Removal, Ash and Slag Removal and Ash and Slag Utilization. (Trudy Konferentsiya Po Voprosam Zoloulavlivaniya, Shlakozoloulavlivania I Shlarozoloispol'zovaniya). U.S.S.R. Gosenergoizdat (Moscow: Gosenergoizdat, 1955, 160pp abstr. in Teploenergetika (Heat Pwr Engng, Moscow), June 1956, 64). There are ten papers on atmospheric pollution, flue gas cleaning, cyclones, instrumentation, pneumatic removal of ash, ash handling, and the use of ash for heat insulation and construction.

MAKAROV, A.I., doktor tekhn.nauk, prof.; BOBROVA, Z.V., kand.tekhn.nauk

Development of shuttleless weaving; symposium on shuttleless weaving in Czechoslovakia. Tekst.prom. 19 no.12: 36-43 D '59. (MIRA 13:3)
(Czhechoslovakia--Looms--Hydraulic driving)
(Looms--Pneumatic drive)

MAKAROV, A.I.

Centrifugal spinning of cotton and wool (continuation). Izv. vys.ucheb.zav.; tekh.tekst.prom. no.2:81-88 '59. (MIRA 12:6)

1. Moskovskiy tekstil'nyy institut.
(Cotton spinning)
(Woolen and worsted spinning)

MAKAR[illegible], A.I.

Centrifugal cotton and wool spinning. Izv.vys.ucheb.zav.; tekh. tekst.prom. no.1:108-114 '59. (MIRA 12:6)

1. Moskovskiy tekstil'nyy institut.
(Cotton spinning) (Woolen and worsted spinning)

BLYUMBERG, TS.M., kand.tekhn.nauk; MAKAROV, A.I., prof., doktor tekhn. nauk, retsenzent; DOBROGURSKIY, S.O., prof., doktor tekhn.nauk, red.; SOKOLOVA, V.V., red.izd-va; SMIRNOVA, G.V., tekhn.red.

[Spinning pumps; design, manufacture, and testing] Priadil'nye nasosy; raschet, konstruirovanie, metody ispytaniia. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1959. 90 p. (MIRA 12:8)

(Textile machinery)

MAKAROV, A.I., professor

Training scientists at the Moscow Textile Institute. Tekst. prom. 15 no.6:10-11 Je '55. (MLRA 8:7)
(Moscow--Textile research)

MAKAROV, A.I., professor.

Determining the tension of thread in multiwave baloons according to professor N.A.Vasil'ev's formula. Tekst.prom. 15 no.2:19-21 F '55. (MLRA 8:3)
(Spinning)

MAKAROV, A. I.

"Computation of the tension of the thread in multiple-wave cylinders, according to Prof. N.A. Vasiliyev's formula," published by State Publishing House of Light Industry, page 19.

SO: Textile Industry, Moscow 1955.

devices travel. For moving the carrying devices onto a stand and for returning it along the conveyor for a distance equal to the distance separating the stands, each stand is provided with a spherical support. It is along these spherical supports that the carrying device passes from the conveyor onto the stand with the help of a screw transmission. The nut of this screw is placed on a slide block carrying a clevice yoke entering the corresponding opening in the carrying device. To connect the shaft of the tested engine with the movable electric engine, a pair of elastic pronged semiclutches are utilized. These are placed on the end of the floating shaft and on the flywheel of the tested engine. To attach automatically the oil feed pipe to the tested engine, the pipe is provided with a pneumatic device. The latter consists of movable pipe levers, a pneumatic power cylinder motivating these levers, and of a vertical pipe. This device connects the gear box of the engine to the oil feed pressure pipe and to the vertical pipe. The upper overflow opening of this pipe lies at the same level as the oil necessary in the gear box of the engine.

SUB CODE: 13/ SUBM DATE: 04May64

L 07344-67 EWT(d)/EWT(m)/EWP(f)/EWP(e)/EWP(w)/EWP(k)/EWP(h)/EWP(v) JD/HW
ACC NR: AP6012154 FDN/DJ SOURCE CODE: UR/0413/66/000/007/0072/0072

AUTHORS: Telyushkin, P. N.; Shapiro, I. S.; Farshatov, M. N.; Makarov, A. I.; Doletskiy, V. A.

ORG: none

TITLE: Equipment for turning and testing internal combustion engines. Class 42, No. 180387 [announced by Yaroslavl State Motor Plant (Yaroslavskiy gosudarstvennyy motornyy zavod)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 7, 1966, 72

TOPIC TAGS: internal combustion engine, engine test facility, nondestructive test, engine test stand

ABSTRACT: This Author Certificate presents an equipment for turning and testing internal combustion engines. The equipment consists of a transporting assembly surrounded by stands carrying electric motors, and of accompanying devices for establishing and moving the tested engines onto the stands. These devices are provided with equipment for conveying water and fuel and for removing waste gases. To reduce the metal used, to mechanize and to automate the machinery and to improve the working conditions, the transporting assembly is made in the form of a closed horizontal conveyor and of a closed rail track on which the wheels of the carrying

Card 1/2 UDC: 620.1.05:621.43

L 00065-66

ACCESSION NR: AP5021324

10

having rectangular or circular cross section) shows that the focusing by means of the accelerating field is quite effective. "The authors thank A. P. Fedotov for his participation during the accelerator design, B. K. Kondrat'yev, R. P. Kuybida, and V. I. Moguchev for their part in putting the device into operation, and A. I. Trikin for his help in carrying out the experiments." Orig. art. has: 4 figures.

ASSOCIATION: None

SUBMITTED: 27May64 ENCL: 00 SUB CODE: NP

NO REF SOV: 003 OTHER: 000

Card 2/2

L 00065-66 EWT(m)/EPA(w)-2/EWA(m)-2 IJP(c)

ACCESSION NR: AP5021324 UR/0120/65/000/004/0026/0029

539.1.076

AUTHOR: Teplyakov, V. A.; Yermakov, S. M.; Makarov, A. I.; Gendel', Yu. G.; Krasnovskiy, V. I.; Shembel', B. K.

TITLE: The use of accelerating field focusing in the beginning part of a linear ion accelerator

SOURCE: Pribory i tekhnika eksperimenta, no. 4, 1965, 26-29

TOPIC TAGS: MEV accelerator, ion beam focusing, particle accelerator component

ABSTRACT: The beginning part of an accelerator (b.p.a.) is distinguished by large relative velocity increments within the gaps of the accelerating system. The existing theory of accelerating field focusing is applicable to accelerators with small velocity increments only (1-2%) and describes only poorly the ion motion with the b.p.a.. Such a focusing was tested only on electron models of 4—7 MEV proton linear accelerators and the present authors tested the accelerating field focusing in a b.p.a. with velocity increments of 5—15% and an injection energy of 50 kEV with an operative wavelength of 5 m. This article describes the instrument and by comparing the proton spectra at its exit (drift tubes with a channel

Card 1/2

ZAMYATNIN, M. M., kand.tekhn.nauk; BALUYEV, T. A., inzh.; prinimali uchastiya MAKAROV, A. I.; ZIMIN, N. V.; TELEGINA, M. P.; ZAYTSEVA, G. V.

Study of chemical and thermal processes in the treatment of steel components with high-frequency induction heating. Trudy NIITVCH no.1/2:116-126 '60. (MIRA 17:7)

MAKAROV, A.I.

Methods of calculating the torsional elastic system of resonance vibration machines. Obog. i rud 7 no.5:45-49 '62. (MIRA 16:4)
(Ore dressing—Equipment and supplies) (Vibrators)

MAKAROV, A.I.; ZHGULEV, A.S.

Shortcomings in the performance of electrovibration feeders and methods to remove them. Obog. rud 7 no.3:56-59 '62. (MIRA 16:4)
(Feed mechanisms) (Conveying machinery)

MAKAROV, A.I., deputat

In support of economy and thrift in spending budgetary founds.
Gor. khoz. Mosk. 35 no. 3:45-47 Mr '61. (MIRA 14:5)
(Moscow--Finance)

MAKAROV, A.I.,

The Frunze district of the capital. Gor. khoz. Mosk. 29 no.7: 8-11 Jl '55. (MLRA 8:9)

1. Predsedatel' ispolnitel'nogo komiteta Frunzenskogo rayonnogo soveta. (Moscow--Reconstruction)

MAKAROV, A. I.

"Design of the Framework of Thin-Walled Dome Structures." Sub 17 Oct 51, Military Aeronautical Engineering Academy imeni Prof N. Ye. Zhukovskiy

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 480, 9 May 55

MAKAROV, A.I.

Operation of the Orekhovo Peat Briquetting Plant. Torf. prom. 35 no. 4:30-31 '58. (MIRA 11:7)

1. Direktor Orekhovskogo torfobriketnogo zavoda.
(Orekhovo-Zuyevo--Briquets(Fuel))
(Peat)

MAKAROV, A. I.

Fire prevention at the peat briquetting plant. Pozh.delo 4 no.11:8 N '58. (MIRA 11:12)

1. Direktor Orekhovo-Zuyevskogo terfobriketnogo zavoda.
(Orekhovo-Zuyevo--Factories--Fires and fire prevention)

AID P - 2728

Subject : USSR/Engineering

Card 1/1 Pub. 78 - 25/27

Author : Aranovich, D.

Title : Titkov, V. I., Bogdanov, V. N. and Makarov, A. I. Proyektizovaniye i stroitel'stvo neftebaz planning and building of oil-bases 1953 (Review)

Periodical : Neft. khoz. v. 33, #6, 92-94, Je 1955

Abstract : The reviewed book deals with all the aspects of planning oil depots, small and large, and in its second part treats construction materials and building procedures, also plans of various types of oil storage and tanks.

Institution : None

Submitted : No date

MAKAROV, A.I.

TITKOV, V.I.; BOGDANOV, V.N.; MAKAROV, A.I.

[Planning and construction of petroleum tank farms] Proektirovanie i stroitel'stvo neftebaz. Moskva, Gos.nauchno-tekh. izd-vo neftianoi i gorno-toplivnoi lit-ry, 1953. 424 p. (MLRA 8:9)
(Petroleum--Storage)

Ion-optical production method...

as the voltage and current increase but is limited by the spread parameter of the ion source, and is also a function of the material and thickness of the workpiece. Also the quality of drilling is a function of the material. Stops manufactured by the method described are used for various electronic devices, e. g., electron microscopes. N. M. Popov is mentioned. The authors thank Yu. M. Kushnir for interest and G. V. Der-Shvarts for suggestions. There are 2 figures, 1 table, and 2 references: 1 Soviet-bloc and 1 non-Soviet-bloc.

Fig. 1

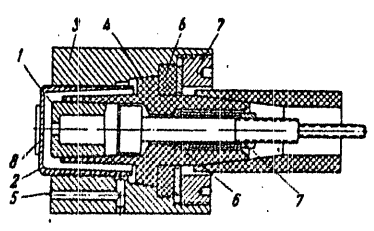


Fig. 1.

Card 3/5

discharge space is kept at $\sim 10^{-1}$ mm Hg. The self-sustained gas discharge takes part only in the region close to the axis, and the electrode [illegible] used causes a self-focusing of the ions. Thus the ion beam is focused to a thin thread. The aperture of the beam is very small, and after the beam has penetrated a surface of minimum cross section, it is spread [illegible] little. This makes it possible to drill dielectrics located behind the [illegible] of the cathode [illegible]. Fig. 2 shows the diagram of such a [illegible] device. The drilling of a hole can be observed through a glass [illegible]. The initial diameter of the hole is 2 - 3 and increases if the device is not turned off. The size of the diameter is a function of the operating time of the device. It can be evacuated with any forepump (for instance, -461 (VN-461)). The ion source is fed by a simple rectifier with an output voltage of $\sim$ 12 - 25 kv and a current of 2 ma. It is not necessary to filter or stabilize the voltage. A limiting resistor [illegible]-10-100 (VS-10-100) kilohm is used to stabilize the discharge current. The ion source described can be used to drill holes into various materials. The results, which do not present any limiting values of the drilling velocity, are compiled in the accompanying table. The velocity increases

S/048/61/025/006/010/010
B117/B212

AUTHORS: Rozenfel'd, L. B. and Makarov, A. I.

TITLE: Ion-optical production method of stops with small apertures

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 25, no. 6, 1961, 754 - 756

ABSTRACT: The present paper has been presented at the 3rd All-Union Conference of Electron Microscopy, held in Leningrad from October 24 to 29, 1960. The authors report on a simple device developed by them to drill holes using focused ion beams. The device is easy to adjust and is able to drill holes of 2 - 3 μ diameter to tenths of a millimeter in various materials relatively fast. The ion source used (Fig. 1) is based on the principle of a canal-ray gas discharge ion source and consists of: 1) plate; 2) cathode; 3) casing; 4) insulator; 5) cable connecting discharge space and vacuum; 6) rubber seal; 7) seal fastener; 8) workpiece. The plate-cathode gap is usually adjusted to 0.25 - 2.5 mm. The pressure in the

Card 1/5

16 6000

S/124/62/000/003/046/052
D237/D302

AUTHOR: Makarov, A.I.

TITLE: Determining thermal stresses in a compound spherical vessel

PERIODICAL: Referativnyy zhurnal, Mekhanika, no. 3, 1962, 14, abstract 3V80 (Tr. Gor'kovsk. politekhn. in-ta, 1961, 15, no. 1, 84 - 89)

TEXT: The problem is considered of determining thermal stresses in a compound spherical vessel when the outer and inner parts of the vessel possess different coefficients of linear expansion. Temperature drop is a function of the radius only. Equation of displacement equilibrium with the temperature taken into account is solved for inner and outer spheres. Four constants of integration are found from the conditions that radial stresses on the outer and inner surfaces of the vessel are equal to zero and from the equality of displacements and radial stresses on the surface, separating the inner and outer parts of the vessel. [Abstractor's note: Complete translation].

Card 1/1

Separation of Aluminate Solution and Slime Washing (cont.)

300-g solids contents per liter of feed, and a pulp-treating capacity of 5 m^3/hr. The drain fluid contains 30-40 g solids per liter, and sands of 27-28% moisture content. The presence of a large quantity of very fine slime in the drain liquid made it necessary to improve the centrifuge by installing a disk-type separator in the wide end of the D. At 1200 rpm and a capacity of 4-5 m^3/hr, this made it possible to produce a discharge containing 20 g solids/liter, and sands of 28-29% moisture content. A filter-thickener for thickening the slimes consists of a tank with a conical bottom in which filtering elements are immersed. These consist of 92 perforated steel cartridges wound with filter cloth, combined 4 per compartment. A rotating slide valve provides alternating connection of 18 compartments to the vacuum system, 1 to the pressure system, and 4 to the atmosphere. The axial cake is scraped from the conical bottom of the tank to a central discharge opening. The filter-thickener has a total filtering surface of 40 m^2, the capacity of each cartridge being 14.5 liters, the capacity of the tank 33.5 m^3, the capacity of the plant being 50 m^3/hr of filtrate, the cake resulting containing 45-50% moisture, and the filtrate being virtually pure. The cloth is replaced after every 48 hours of operation, depending upon the filtering work. Similar filter-thickeners of 80 and 170 m^2 surface area are in the process of design.

1. Aluminum oxide--Production 2. Industrial plants--Equipment Ye.Z.

Card 2/2

SOV/137-58-8-16631

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 8, p 54 (USSR)

AUTHORS: Finkel'shteyn, G.A., Rundkvist, K.A., Makarov, A.I.

TITLE: Separation of Aluminate Solution and Slime Washing at the Volkhov Plant (Otdeleniye alyuminatnogo rastvora i promyvka shlama na Volkhovskom zavode)

PERIODICAL: [Tr.] Vses. n.-i. proyektn. in-ta mekhan. obrabotki poleznykh iskopayemykh, 1957, Nr 102, pp 229-237

ABSTRACT: The Mekhanobr Institute has developed and tested at the Volkhov Aluminum Plant a number of new pieces of equipment for Al_2O_3 production. A continuous-action worm-type settling centrifuge consists of a conical drum (D) with hollow journals which contains conical worms rotating at a somewhat greater speed than the D. When pulp is transmitted through the hollow journals of the D, a precipitate is removed by centrifugal force and comes down on the inside surface of the D, is transferred by the worm to its narrow end and is discarded into the appropriate compartment of the shell. The drain fluid exits through an aperture in the wide end of the D. In the separation of hot aluminate pulp, the best results are obtained at 1400 rpm, an

Card 1/2

KARASEVA, Anna Nikitichna; MAKAROV, A.G.; MIKHEL'SON, G.A. [deceased]; SUBBOTIN, A.A.; KARON, I.I., red.

[Manual on chamber disinfection] Rukovodstvo po kamernoi dezinfektsii. [By] A.N.Karaseva i dr. Moskva, Meditsina, 1964. 207 p. (MIRA 17:5)

On the tendency ....

The effect of different contents of alloy elements (Mn, Cr, Ti, Fe, Si, Zr) was determined on cast ring samples in chill molds, and subsequently verified in welding. The results of these experiments are given in Figs. 4, 5, 6, 7. The following conclusions are drawn: (1) High-strength Al-Zn-Mg alloys have a considerable tendency to hot cracks in fusion welding; (2) This tendency increases when the Mg content increases in relation to Zn content below $\frac{Mg}{Zn} \approx \frac{30}{70}$. The crack resistance becomes sufficiently high when the Mg content exceeds 2.5 - 3% at Zn content of 4.2-6.2%; (3) The effect of up to 0.6% Mn and up to 0.4% Cr is insignificant. The Fe: Si content ratio must be higher than 1, and the content of Fe and Si must be relatively low; (4) Additions of Ti and Zr raise the crack resistance considerably. The effect of Zr is sufficiently high when about 0.5% is included. Ti content below 0.3% did not eliminate hot cracks in the weld metal produced by the argon-arc process; (5) Sufficiently high mechanical properties were obtained in multilayer deposits produced by a nonconsumable electrode in the argon-arc process with filler metal containing about 4-4.5% Zn, 3% Mg and 0.5% Zr. There are 9 figures, 1 table and 5 references: 4 Soviet and 1 non-Soviet bloc.

SUBMITTED: September 21, 1960

Card 2/4

26481
S/125/61/000/009/005/014
D040/D113

1 2300 2708, 2515, 2808, 1573

AUTHORS: Petrov, G.L., Makarov, A.G. (Leningrad)

TITLE: On the tendency of aluminum-zinc-magnesium alloys to the formation of hot cracks during welding

PERIODICAL: Avtomaticheskaya svarka, no. 9, 1961, 24-32

TEXT: The article presents data obtained in experiments the purpose of which was to find suitable filler metal composition for high-strength Al-Zn-Mg alloys similar to the German alloys "3415" and "3425". The hot-cracking tendency of Al-Zn-Mg alloys was compared to this tendency in Al-Mg systems which are used for welded structures. The comparison was carried out at MVTU im. Baumana (MVTU im. Bauman) by a method proposed by N.N.Prokhorov [Abstracter's note: The method is not described], where Al-Zn-Mg alloys were found more prone to hot cracking than Al-Mg. Reference is made to investigations of N.F.Lashko and S.V.Lashko-Avakyan (Ref.3: N.F.Lashko and S.V.Lashko-Avakyan, Svarivayemyye legkiye splavy /Weldable light alloys/, Sudpromgiz, 1960) who also stated hot cracking tendency in Al-Zn-Mg welds.

Card 1/4

MAKAROV, A. G.

MAKAROV, [illegible] G. "A disinfection chamber with a simplified [illegible] [illegible] producer", Trudy Tsentr. nauch. [illegible] Serial No. [illegible], Issue [illegible], 19[illegible], p. [illegible]14-17.

SO: U-4631, 16 Sept 53, (Letopis 'Zhurnal 'nykh Statey, No. 24, 19[illegible]).

MAKAROV, A.G.

Good care of poultry guarantees success. Ptitsevodstvo 8 no.5:22-23 My '58. (MIRA 11:5)

1. Predsedatel' kolkhoza imeni Maksima Gor'kogo, Gorodetskogo rayona, Gor'kovskoy oblasti.

(Poultry)

MAKAROV, A. G.

A. N. Karaseva, A. G. Makarov, R. A. Karelina, et al., Al'bum chertezhey desinfektsionnykh kamer /Album of Drawings of Disinfection Chambers/, Medgiz, 10 sheets

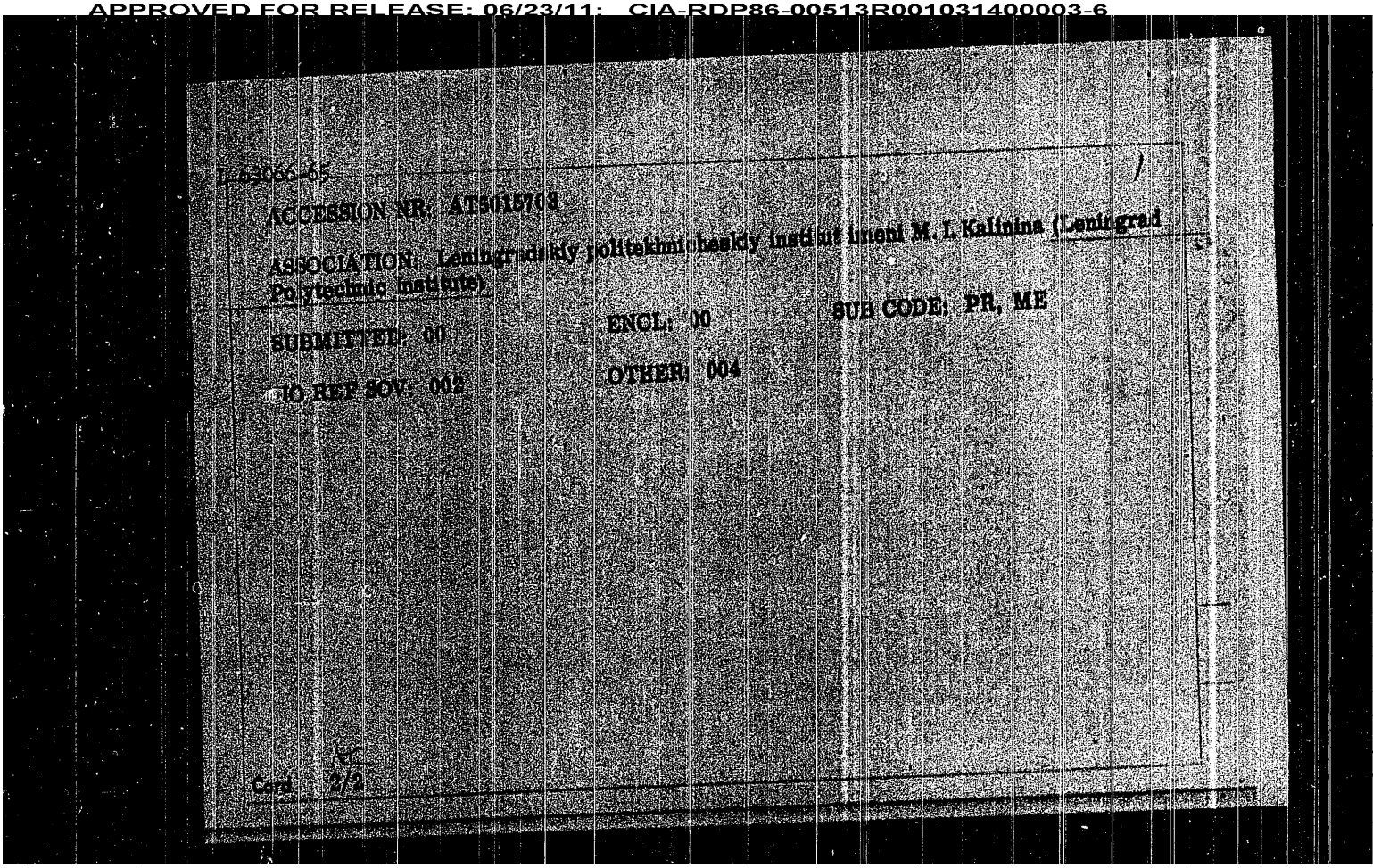
The album gives schematic drawings of disinfection chambers produced to meet local conditions. Brief technical explanations are appended, together with instructions for work iwth disinfection chambers.

Intended for disinfection physicians, epidemiologists, disinfecting instructors, workers at sanitary-epidemiological stations, and engineers in sanitary technology.

SO: U-6472, 23 Nov 1954

RYZHAK, Aleksandr Nikonovich; MAKAROV, A.G.

[Propagation of the decisions made by the 21st Congress of the CPSU] Propaganda reshenii XXI s"ezda KPSS. Moskva, Voen. izd-vo 1959. 62 p. (MIRA 14:12)
(Russia--Economic policy)



L 63066-65

ACCESSION NR: AT5018703

ASSOCIATION: Leningradskiy politekhnicheskiy institut imeni M. I. Kalinina (Leningrad Polytechnic Institute)

SUBMITTED: 00 ENCL: 00 SUB CODE: PR, ME

NO REF SOV: 002 OTHER: 004

Card 2/2

L 63066-65 EWT(m)/EWP(1)/FCS(k)/EPF(n)/T-2/EWA(d)/EWA(1)/EWT(?) Pd-1 WW

ACCESSION NR: AT5018703 UR/2563/65/000/248/0014/0024

AUTHOR: Makarov, A. F.

TITLE: A three-dimensional flow of liquid in the flow channel of a mixed flow turbine

SOURCE: Leningrad. Politekhnicheskiy institut. Trudy, no. 248, 1965. Tekhnicheskaya gidrogazodinamika (Technical gas hydrodynamics), 14-24

TOPIC TAGS: mixed flow turbine, impeller flow channel, three dimensional flow, relaxation calculation

ABSTRACT: The author postulates a problem on the potential flow of a nonviscous incompressible liquid in the impeller cavity of a mixed flow turbine, assuming an arbitrary shape of impeller blading, hub and housing. The flow is assumed streamline relative to the rotating impeller. Relaxation techniques are used in combining two previously known programs of calculation (i.e., the axisymmetric solution and a solution postulating a flow over surfaces of rotation in the channel and assuming the invariance of flow parameters perpendicularly to such surfaces across the streamtubes) to obtain a solution to a three-dimensional flow problem. Actual calculations are presented initially for an axisymmetric flow, then for a flow over surfaces of rotation from blade to blade. Orig. art. has: 6 figures and 16 formulas.

Card 1/2

MAKAROV, A. F.

Cultivation of irrigated cotton Moskva, Gos. izd-vo sel'khoz. lit-ry, 1953. 70 p.
(Biblioteka kolkhoznika) (55-15901)

SB251.R9M3

1. Cotton growing Russia

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001031400003-6

MAKAROV, A. F.

Crimea - Cotton Growing

V. Koltunenko's book "For a high yield of cotton." Khlopkovodstvo no. 6, 1952.

Monthly List of Russian Accessions, Library of Congress, November 1952. Unclassified.

UTUYZH, A.P., inzh.; RESHETOV, V.P.; MAKAROV, A.F.

Letters to the editor. Put' i put.khoz. 4 no.9:44 S '60.
(MIRA 13:9)

1. Pomoshchnik revizora po bezopasnosti dvizheniya, stantsiya Bryansk, Kalininskog dorogi (for Utyuzh). 2. Nachal'nik distantsii puti, stantsiya Atakrsk, Privolzhskoy dorogi (for Reshetov). 3. Nachal'nik distantsii puti, stantsiya Kovylkino, Kuybyshevskoy dorogi (for Makarov).
(Railroads)

MAKAROV, A.F.; OBOROTOV, I.Ye.; KALYADIN, I.I.; FELENKO, L.I.; PEREPELITSA, V.R.; NECHAYEV, B.N.; DAVYDOV, A.M.; IVANOV, N.G.; CHUVAKOV, P.F.; FIL'KOV, P.V.; LAR'KIN, G.D.; SVYATKIN, V.V.; SHARIFULLIN, M.

Railroad workers address metallurgists. Put' i put.khoz. 4 no.8:14 Ag '60. (MIRA 13:8)

1. Kovylkinskaya distantsiya puti i putevaya mashinnava stantsiya No.66, stantsiya Kovylkino, Kuybyshevskoy dorogi. 2. Nachal'nik Kovylkinskoy distantsii puti (for Makarov). 3. Sekretari partbyuro, stantsiya Kovylkino, Kuybyshevskoy dorogi (for Oborotov, Nechayev). 4. Predsedatel' mestkoma, stantsiya Kovylkino, Kuybyshevskoy dorogi (for Kalyadin). 5. Sekretari Vsesoyuznogo Leninskogo kommunisticheskogo soyuza molodezhi, stantsiya Kovylkino, Kuybyshevskoy dorogi (for Felenko, Ivanov). 6. Nachal'nik putevoy mashinnoy stantsii No.66, stantsiya Kovylkino, kuybyshevskoy dorogi (for Perepelitsa). 7. Chlen mestkoma, stantsiya Kovylkino, Kuybyshevskoy dorogy (for Davydov). 8. Rukovoditeli brigad i udarniki kommunisticheskogo truda distantsii i putevoy mashinnoy stantsii No.66, stantsiy Kovylkino, Kuybyshevskoy dorogi (for Chuvakov, Fil'kov, Lar'kin, Svyatkin, Sharifullin).

(Railroads--Rails)

MAKAROV, A.D.; YANATAROV, R.A.

Relationship between the dimensional wear of cutting tools and the diameter of boring. Stan. i instr. 35 no.6:28-29 Je '64 (MIRA 17:8)

MAKAROV, A. D.

Device for measuring radial wear and temperature deformation of boring tools. Stan. i instr. 33 no.10:35 O '62.
(MIRA 15:10)

(Metal-cutting tools—Testing)

MAKAROV, A.D.

Dimensional wear and strength of cutting tools in machining hardened steels on lathes. Stan.i instr. 33 no.8:26-31 Ag '62. (MIRA 15:8)

(Turning)

MAKAROV, A. D., kand. tekhn. nauk

Nomograms for selecting feeds and cutting speeds considering the finish of machining and the intensity of dimensional wear of cutting tools. Mashinostroitel' no.10:26-27 O '62. (MIRA 15:10)

(Metal cutting)
(Nomography(Mathematics))

Problems of machining accuracy and finish ...

tude of radial wear and length of cutting path. The height of microroughness of a machined surface depends on the intensity of growth of the radial wear. The author recommends, to increase the dimensional life and machining finish, a chamfer with the back angle = 0° along the whole tool cutting edge, which proves very effective for any kind of finish turning. He presents instructions and calculation formulae to select the optimum tool geometry and cutting conditions. There are 9 graphs and 13 references.

[Abstracter's note: Complete translation]

Card 2/2

14000

31929
S/123/61/000/022/006/024
A004/A101

AUTHOR: Makarov, A.D.

TITLE: Problems of machining accuracy and finish during the finish turning of steel with ЦМ 332 (TsM332) mineral-ceramic tools

PERIODICAL: Referativnyy zhurnal. Mashinostroyeniye, no. 22, 1961, 29, abstract 22B177 (V sb. "Instrumental'n. rezhushchiye materialy", Moscow, AN SSSR, 1960, 115 - 127)

TEXT: The author investigated the effect of various technological factors on the dimensional life of mineral-ceramic tools and machining finish: cutting speed, feed magnitude, depth of cut, dimensions of rake and back angles, rounding-off radius of tool top and chamfer on the back edge. He presents graphs of the dependence of the initial and relative wear of TsM332 tools and height of micro-roughness on the mentioned factors during the machining of axle steel of σ_b = 62.5 kg/mm^2. The author gives a comparative rating of the life of different tool materials and machining finish. It is stated that TsM332 mineral-ceramic tools, as regards cutting properties, are superior to all tool materials except T 60K 6 (T60K6) sintered carbide. A linear dependence exists between the magni-

Card 1/2

MAKAROV, A. D.

PHASE I BOOK EXPLOITATION SOV/5116

Akademiya nauk SSSR. Institut mashinovedeniya

Instrumental'nyye rekhushchiye materialy (Cutting-Tool Materials)
Moscow, Izd-vo AN SSSR, 1960. 157 p. 6,000 copies printed.

Resp. Ed.: A. I. Isayev, Doctor of Technical Sciences, Professor; Ed. of Publishing House: G. B. Gorshkov; Tech. Ed.: N. F. Yegorova.

PURPOSE: This collection of articles is intended for scientific personnel and production engineers engaged in the manufacture and use of cutting tools.

COVERAGE: The collection contains papers read at a seminar on cutting-tool materials organized and sponsored by the Komissiya po tekhnologii mashinostroyeniya (Commission on Processing in Machine Building). The seminar investigated the cutting properties of ceramic and carbide tool materials, the effect of temperature on cutting edges, the problem of wear, and the possibility of using cutting tools more efficiently. No personalities are mentioned. References accompany each article. There are 81 references: [illegible] and 2 English.

AVAILABLE: Library of Congress

VK/wrc/fal
5-15-61

Card 1/3

(9)

Макаров А.Д.

18(0); 25(0); 10(6) PHASE I BOOK EXPLOITATION SOV/1993

Ufa. Aviatsionnyy institut

Trudy Vyp. 3 (Transactions of the Ordzhonikidze Aviation Institute, Ufa) Nr 3. Ufa, Bashkirskoye knizhnoye izd-vo, 1957. 222 p. Errata slip inserted. 1,000 copies printed.

Resp. Ed. for this no.: I.A. Bolotovskiy; Editorial Board: I.P. Yemelin (Resp. Ed.), A.N. Rakhmanovich, I.A. Bolotovskiy, S.I. Kalikov, V.A. Vinogradov, and P.D. Mirko; Ed.: M.A. Gurvich; Tech. Ed.: F.G. Gayfullin.

PURPOSE: The book is intended for engineers and scientific workers in the fields of metallurgy, technological processes, and fluid mechanics.

COVERAGE: This volume contains 14 articles dealing with metallurgy and mechanical, aeronautical, and electrical engineering problems. Individual abstracts are given in the Table of Contents.

Card 5/7

MAKAROV, A.D., kandidat tekhnicheskikh nauk.

Investigating the radial wear of metal-ceramic tool bits during the finish machining of axle steel. Trudy MATI no.32: 119-130 '57. (MLRA 10:9)
(Cutting tools) (Mechanical wear) (Cermets)

MAKAROV, AD

AID P - 5151

Subject : USSR/Engineering

Card 1/1 Pub. 103 - 10/18

Author : Makarov, A. D.

Title : Measuring instrument for determination of radial wear and deformation of cutter.

Periodical : Stan. i instr., 5, 37-38, My 1956

Abstract : Design and operation of the measuring instrument are described. The instrument was designed by G. A. Gunenkof and V. P. Sovin under the author's supervision. Three drawings; 2 Russian references (1951-1952).

Institution : None

Submitted : No date

MAKAROV, A. D.

"Investigation of Some of the Components of Errors and High Microirregularities in the Fine Machining of Hardened Steels." Cand Tech Sci, Moscow Aviation Technological Inst, Min Higher Education USSR, Moscow, 1955. (KL, No 14, Apr 55)

SO: Sum. No. 704, 2 Nov 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (16).

MAKAROV, ALEKSANDR DAVIDOVICH

Finansirovaniye i kreditovaniye Sovetskoy torgovli.
Moskva, Gostorgizdat, 1961.

268 p. charts, tables.

Bibliographical footnotes.

MAKAROV, Aleksandr Dovydovich

[Finance in Soviet commerce] Finansy sovetskoi torgovli. Moskva, Gos.izd-vo torg.lit-ry, 1956. 103 p. (MIRA 12:12)
(Russia--Commerce)

MAKAROV, Aleksandr Davydovich; LYUDSKOV, B.P., redaktor; ROSLOV, G.I. tekhnicheskiy redaktor.

[Finance and credit in Soviet commerce; textbook for Soviet trade schools] Finansirovanie i kreditovanie sovetskoi torgovli; uchebnoe posobie dlia tekhnikumov sovetskoi torgovli. Moskva, Gos.izd-vo torgovoi lit-ry, 1955. 267 p. (MLRA 9:1)
(Finance) (Credit)

MAKAROV, A. D

Fimans I Rovanite I Kreditovaniye Sovetskoy Torglovi (Financing and Crediting the Soviet Trade; Moskva, Gostorgizdat, 1950

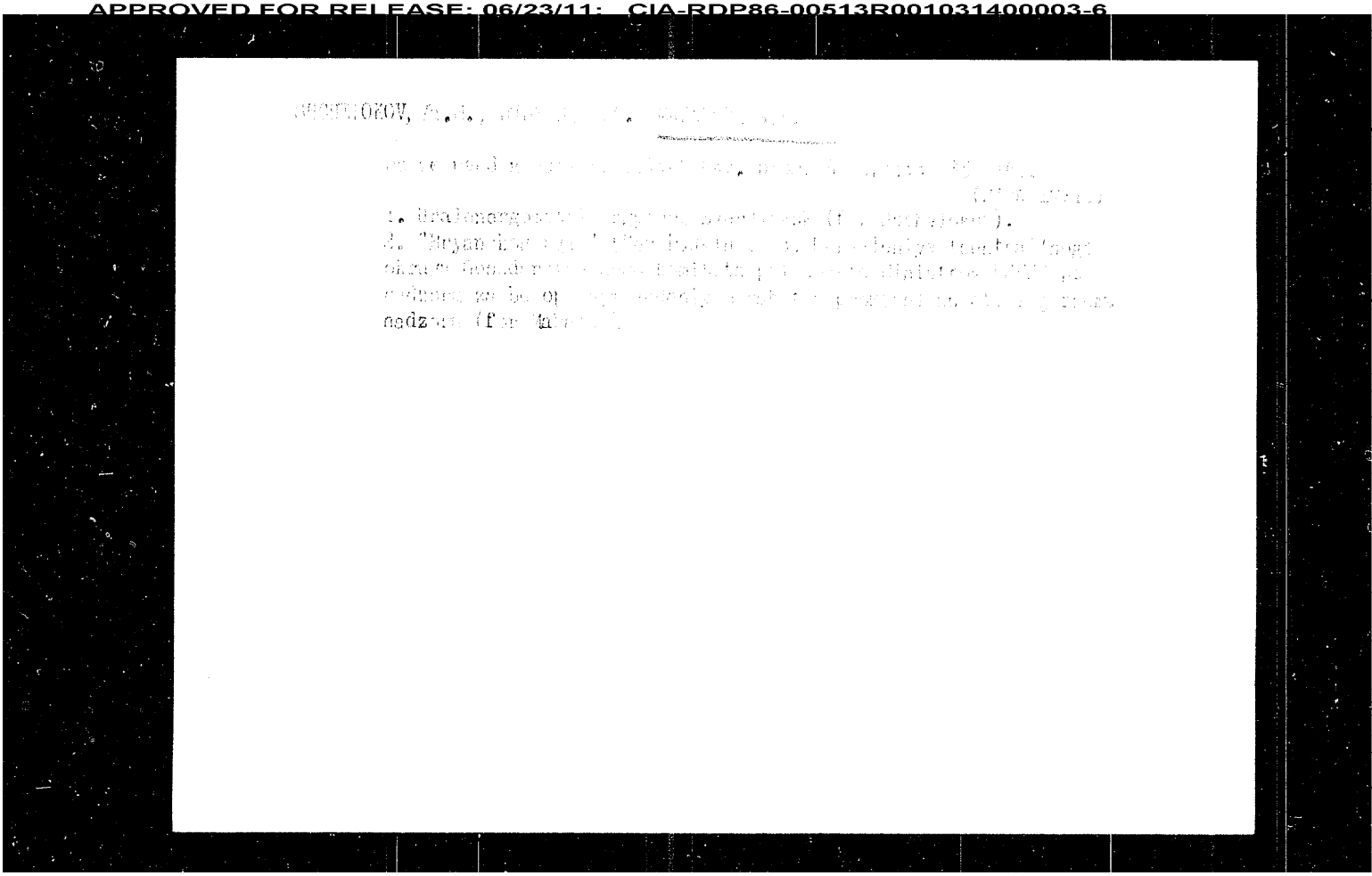
250 p. Tables, Diagrs.

Deals with Financial, Credit-Monetary, Budget and other systems of Trade in USSR. Book includes examples of bookkeepping.

GALANOV, I.G., otv. red.; MATLAKHOV, S.G., otv. red.; POLESIN, Ya.L., red.; BOGOMOLOV, A.I., red.; ZHELEZNYAKOVA, M.A., red.; ZHIDOVETSKIY, B.V., red.; ZIL'BERSHTEYN, I.A., red.; KANER, I.Ye., red.; KLYUYEVA, Ye.P., red.; KOZLOVA, Ye.I., red.; MAKAROV, A.D., red.; SAMARTSEV, A.I., red.; SOLOPKO, A.P., red.; TIKHONOV, V.A., red.; VOLKOVA, V.A., ved. red.

[Safety regulations in the gas industry; regulations obligatory for all ministries, departments, and organizations] Pravila bezopasnosti v gazovom khoziaistve; pravila obiazatel'ny dlia vsekh ministerstv, vedomstv i organizatsii. Perer. i dop. izd. Moskva, Nedra, 1965. 143 p. (MIRA 18:3)

1. Russia (1917- R.S.F.S.R.) Gosudarstvennyy komitet po nadzoru za bezopasnym vedeniem rabot v promyshlennosti i gornomu nadzoru.



MAKAROV, A.D.

Improve the servicing of gas-operated equipment in apartment houses. Gor. khoz. Mosk. 30 no.7:9-10 Jl '56. (MLRA 9:10)

1. Nachal'nik Moskovskoy okruzhnoy inspektsii Gostekhgornadzora.
(Gas appliances)

MAKAROV, A.D., inzhener.

Increasing safe operation of gas water heaters. Gor.khoz.Mosk. 29 no.2:31-33 F '55. (MLRA 8:5)
(Boilers)

BORESKOV, G.K.; SHCHEKOCHIKHIN, Yu.M.; MAKAROV, A.D.; FILIMONOV, V.N.

Use of infrared absorption spectra in studying the structure of surface compounds formed during adsorption of ethanol on γ-oxide of aluminum. Dokl. AN SSSR 156 no. 4:901-904 Je '64. (MIRA 17:6)

1. Institut kataliza Sibirskogo otdeleniya AN SSSR i Leningradskiy gosudarstvennyy universitet im. A.A.Zhdanova. 2. Chlen-korrespondent AN SSSR (for Boreskov).

DZIS'KO, V.A.; RONTSOVA, M.S.; KARAKCHIYEV, L.G.; MAKAR'YEV, A.D.; KOVALENKO, N.S.; ZUSMAN, R.I.; KHRIPIN, L.A.

Effect of chemical composition and the method of preparation on the physicochemical and catalytic properties of oxide catalysts of complex composition. Part 3: Silica-magnesia catalysts. Kin. i kat. 6 no. 6:1033-1040 N-D '65 (MIRA 19:1)

1. Institut kataliza Sibirskogo otdeleniya AN SSSR. Submitted August 13, 1964.

ACCESSION NR: AP4044388

their gratitude to Yu. G. Sy*cheva, M. V. Kostyukova and L. Dronova for taking part in the experimental work." Orig. art. has: 3 figures, 4 tables and 3 formulas.

ASSOCIATION: Institut kataliza SO AN SSSR (Institute of Catalysis, SO AN SSSR); Fizlko-khimicheskiy institut im. L. Ya. Karpova (Institute of Physical Chemistry)

SUBMITTED: 10Oct63 ENCL: 00

SUB CODE: IC, GC NO REF SOV: 006 OTHER: 001

Card 3/3

ACCESSION NR: AP4044388

noticeable acidity appears. All catalysts containing more than 0.33% ZrO_2 ionize anthraquinone. At 1% ZrO_2 and below, the concentration of the acid centers increases proportionally to an increase in ZrO_2 content. For samples containing 1-25% ZrO_2 the increase in the concentration of acid centers proceeds slowly. With a further increase in the ZrO_2 content, the concentration of acid centers passes through a flat maximum, then decreases, the maximum concentration of acid centers on the surface being 1.3 μ equiv./m^2 at 14-57 mol.% ZrO_2. The reasons for the slight change in the number of acid centers on the surface when the ZrO_2 content is increased above 25% are given. The catalytic activity of the samples in the decomposition of isopropyl and ethyl alcohols was also studied in relation to the chemical composition of the samples. In the range of 10-25% ZrO_2, the specific activity is approximately constant. When the catalytic activity and the concentration of acid centers were plotted against ZrO_2 content in the catalyst, the activity varied in direct proportion to the concentration of acid centers on the surface. The activity is also affected by impurities from the air or alcohol, especially strongly in the case of samples with a low ZrO_2 content. The effect of thermal treatment on the catalytic properties of these catalysts was also investigated; the data are tabulated. It is concluded that the activity of ZrO_2-SiO_2 catalysts is determined by the number of acid centers on the surface and that the catalytic activity of the acid centers does not depend on the ratio of ZrO_2 to SiO_2, the mode of preparation or the thermal treatment. "The authors express

Card 2/3

ACCESSION NR: AP4044388 S/0195/64/005/004/0681/0688

AUTHOR: Dzis'ko, V. A.; Makarov, A.D.; Borisova, M.S.; Akimova, N.V.

TITLE: Effect of chemical composition and mode of preparation on the physicochemical and catalytic properties of oxide catalysts of complex composition. I Zirconium silicate catalysts

SOURCE: Kinetika i kataliz, v. 5, no. 4, 1964, 681-688

TOPIC TAGS: silica, zirconium oxide, zircon, catalyst, catalyst preparation, catalyst acidity, silicagel, oxide catalyst

ABSTRACT: The effect of the mode of preparation and thermal treatment on the catalytic activity of zirconium silicate (ZrO_2-SiO_2) catalysts prepared by different methods (impregnation and coprecipitation) was investigated. Tabulated experimental data obtained for samples based on sodium silicate, all annealed 4 hrs. at 500C, show that an increase in the pH of the medium from 5 to 8 during aging decreases the surface from 300 to 180 m^2/g, while the amount of chemisorbed sodium ions strongly increases. The ion-exchange washing of freshly precipitated gel permits the sodium ion content to be decreased to 0.006%. The effect of the zirconium dioxide content on the physicochemical properties of catalysts based on silicon ethylate was also investigated. After the addition of 0.1% ZrO_2 to silicagel, a

Card 1/3

SHCHEKOCHIKHIN, Yu.M.; MAKAROV, A.D.

Nature of the aluminum γ-oxide surface. Kin. i kat. 5 no.3: 568-569 My-Je '64. (MIRA 17:11)

1. Institut kataliza Sibirskogo otdeleniya AN SSSR.

KEYER, N.P., doktor khim. nauk, otv. red.; MAKAROV, A.D., kand. khim. nauk, red.; MASHKINA, A.V., kand. khim. nauk, red.; NAZARYANTS, T.M., red.

[Scientific principles underlying the selection and preparation of catalysts] Nauchnye osnovy podbora i proizvodstva katalizatorov. Novosibirsk, Red.-izdatel'skiy otdel Sibirskogo otd-niia AN SSSR, 1964. 490 p. (MIRA 18:1)

1. Akademiya nauk SSSR. Sibirskoye otdeleniye.

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001031400003-6

MAKAROV, A. D.

Dissertation defended for the degree of Candidate of Chemical Sciences at the Joint Academic Council on Chemical Sciences; Siberian Branch

"Chemical Nature and Catalytic Properties of Silico-Zirconium Catalysts."

Vestnik Akad. Nauk, No.4, 1963, pp 119-145

KARAKCHIYEV, L.G.; MAKAROV, A.D.

Structure of some silicate catalysts. Kin.i kat. 3 no.5:747-750 S-O '62. (MIRA 16:1)

1. Institut kataliza Sibirskogo otdeleniya AN SSSR.
(Catalysts) (Silicates)

alcohol. (III) Condensation of acetal (Table 5). The results obtained were: (a) The non-additive catalytic properties of jointly precipitated Si-Zr catalysts were confirmed. This non-additivity is due to chemical combination of the components. (b) The number of acid groups on the surface of the equimolar sample and its catalytic activity decrease on heating to 800°C. In dehydration of ethyl alcohol, its catalytic activity is proportional to the acidity. (c) The condensation of acetal does not depend on the temperature to which the catalyst was heated. (d) The dehydration of aldol, as of alcohols, takes place at the OH groups on the catalyst surface and, therefore, decreases after ignition of the catalyst. The authors thank L. A. Ignat'yeva and Z. T. Orlova for taking and evaluating the spectra, and M. S. Borisova and M. V. Kostyukova for the acidity measurements. There are 6 figures, 5 tables, and 11 references: 5 Soviet-bloc and 6 non-Soviet-bloc. The references to English-language publications read as follows: B. B. Corson, H. E. Jones, Welling, Hincley, E. E. Stahly, Ind. Eng. Chem., 42, 359, 1950; R. E. Geller, Lang, J. Amer. Ceram. Soc., 32, (12 Part. II) 167, 1957.

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova
(Physicochemical Institute imeni L. Ya. Karpov)

Chemical composition and ...

than the initial substances: the 735 and 810 cm^{-1} bands disappeared, and new bands appeared at 1060 and 960 cm^{-1}. The formation of an approximately equimolar chemical compound from the two components was established. ZrO_2 contained approximately 0.5% of structure water, silica gel, about 1%, and the jointly precipitated equimolar sample, 3%. Acidity was determined from the color change of an indicator, and the number of acid groups on the surface by titration with butyl amine. Silica gel and ZrO_2 are only slightly acidic, producing a color change of the acid indicator at pK = 4. The $SiO_2 \cdot ZrO_2$ samples produced a color change at pK = -8.2. The catalytic activity was measured in a continuous-flow apparatus for the following reactions: (I) Preparation of divinyl from a mixture of 72.1% ethyl alcohol, 21.7% acetal, and 6.2% H_2O at 340°C. Table 1 shows the results obtained with the pure components and their mechanical mixtures, Table 2 the results for $SiO_2 \cdot ZrO_2$ catalysts, and Table 3 those obtained with these catalysts after treatment with water vapor. (II) Decomposition of ethyl alcohol (Table 4) and isopropyl

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Chemical composition and ...

and the orthosilicic acid ester with NH_3 from aqueous-alcoholic solution, hydrolysis of the precipitate, and ignition; component ratios of the mixture and temperature of ignition were varied; (4) mechanical mixtures of the two components. The structure of the Si-Zr catalysts was examined by (A) X-ray analysis. Results obtained were: (a) ZrO_2 crystallizes at 400-450°C in the tetragonal variety which at 500°C passes over to the monoclinic variety; (b) silica gel ignited at 1000°C is amorphous; (c) jointly precipitated Si-Zr mixtures containing up to 15% SiO_2 after ignition at 500°C exhibited the structure of a solid solution which decomposed after ignition at 1000°C and was re-formed when the temperature dropped below 1000°C. (B) Infrared spectrometric analysis in an UR-2 (IKS-2) spectrometer in the range 2000-600 cm^{-1} gave the following results: (a) Silica gel shows absorption bands at 1170, 1100, and 810 cm^{-1}; (b) ZrO_2 one at 735 cm^{-1}; (c) the spectra of mechanical mixtures were additive; (d) samples obtained by joint precipitation had different spectra

S/195/61/002/001/005/006
B101/B216

AUTHORS: Makarov, A. D., Boreskov, T. K., Dzis'ko, V. A.

TITLE: Chemical composition and catalytic properties of silicon-zirconium catalysts

PERIODICAL: Kinetika i kataliz, v. 2, no. 1, 1961, 84-93

TEXT: Basing on the fact that the catalytic properties of oxide mixtures are not additive, the present work studies the chemical nature and catalytic properties of silicon-zirconium catalysts, and whether this deviation from additivity is due to different acceleration of the individual reactions by the components (a view held, e.g., by B. B. Corson, et al., Ref. 1, see below), or to the chemical nature of the catalyst being changed by interaction between the two components. The following catalysts were prepared: (1) Silica gel by hydrolysis of the ethyl ester of orthosilicic acid, and ignition of the precipitate at 500°C; (2) ZrO_2 by precipitation of $ZrOCl_2$ with NH_3, and ignition of the precipitate at 500°C; (3) mixed catalysts by joint precipitation of $ZrOCl_2$

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L 41106-66 EWT(d)/FSS-2

ACC NR: AR6014599 SOURCE CODE: UR/0274/65/000/012/A011/A011

AUTHORS: Makarov, A. A.; Garskov, G. Kh.

TITLE: High-speed synchronization system with a controlled frequency divider

SOURCE: Ref. zh. Radiotekhnika i elektrosvyaz', Abs. 12A85

REF SOURCE: Tr. Uchebn. in-tov svyazi, vyp. 25, 1965, 3-10

TOPIC TAGS: radio telegraphy, telegraphy equipment, synchronous communication, error correction

ABSTRACT: A discrete synchronization system for radiotelegraph communication with a telegraphy rate up to 6000 baud, in which the correction of the output pulse phase is produced by varying the magnitude of the feedback of the intermediate pulse divider, is considered. Analysis of the basic relations determining the correction error and other system parameters is given. The dynamic correction error Δi for a sufficiently large averaging coefficient $N \geq 10$ can be calculated from the formula $\Delta i = \delta_k + ASNK$. It is determined by the correction effect of the system δ_k, by the character of the keying (through the coefficient A), by the distortion of the fronts of the received messages (through the coefficient S), and by the general instability coefficient K. The selection of the optimal value of N is considered, and the circuit of an averaging device is given. Calculation and experimental results are presented. 2 illustrations, 1 table. Bibliography of 2 citations. L. S. [Translation of abstract]

Card 1/1 SUB CODE: 17 UDC: 621.372.061

L 41352-66 EWT(1)/EWT(m)/EWP(j)/T IJP(c) GG/RM/DS

ACC NR: AR6017257 SOURCE CODE: UR/0058/65/000/012/E011/E011

AUTHOR: Makarov, A. A.; Bogdanov, L. I.

TITLE: Investigation of the complex dielectric constant at a 10^{10} (cps) frequency in some formates and acetates

SOURCE: Ref. zh. Fizika, Abs. 12E78

REF SOURCE: Uch. zap. Mosk. obl. ped. in-ta, v. 147, 1964, 223-230

TOPIC TAGS: dielectric constant, ~~complex dielectric constant~~, dipole moment, acetate, formate

ABSTRACT: The values of real and imaginary dielectric constants have been measured at 10^{10} cps frequency and the dielectric constants at 10^{6} cps frequency in some formates and acetates. The values of effective dipole moments have been calculated and the relaxation times in the temperature range -55C to +30C have been found. [Translation of authors' abstract] [AM]

SUB CODE: 20 ~~SUBM DATE: none~~

Card 1/1 11b

MAKARCV, A.A.

Some general problems in studying the alkaloid-bearing capacity of plants. Rast.res. 1 no.3:436-442 '65. (MIRA 18:10)

1. Yakutskiy gosudarstvennyy universitet.

KUZNETSOV, Yu.A.; MAKAROV, A.A.; MELENT'YEV, L.A.; MERENKOV, A.P.; NEKRASOV, A.S.; TSVETKOV, N.I.; KUZNETSOV, Yu.A.; MAKAROVA, A.S.; KARPOV, V.G.; MANSUROV, Yu.V.; SYROV, Yu.P.; KHRILEV, L.S.; TSVETKOVA, L.A.; VOYTSEKHOVSKAYA, G.V.; YEFIMOV, N.T.; LEVENTAL', G.B.; KHANAYEV, V.A.; BELYAYEV, L.S.; GAMM, A.Z.; KARTELEV, B.G.; KRUMM, L.A.; LIOPO, T.N.; SVIRKUNOV, N.N.; DRUZHININ, I.P.; KONOVALENKO, Z.P.; KHAM'YANOVA, N.V.; SHVARTSBERG, A.I.; NIKONOV, A.P.; STARIKOV, L.A.; POPYRIN, L.S.; PSHENICHNOV, N.N.; TROSHINA, G.M.; CHEL'TSOV, M.B.; SVETLOV, K.S.; SUMAROKOV, S.V.; TAKAYSHVILI, M.K.; TOLMACHEVA, N.I.; KHASILEV, V.Ya.; KOSHELEV, A.A.; KUDINOVA, L.I., red.

[Methods for using electronic computers in the optimization of power engineering calculations] Metody primeneniia elektronno-vychislitel'nykh mashin pri optimizatsii energeticheskikh raschetov. Moskva, Nauka, 1964. 318 p. (MIRA 17:11)

1. Akademiya nauk SSSR. Sibirskoye otdeleniye. Energeticheskiy institut. 2. Chlen-korrespondent AN SSSR (for Melent'yev).

L 7030-66

ACC NR: AP5026826

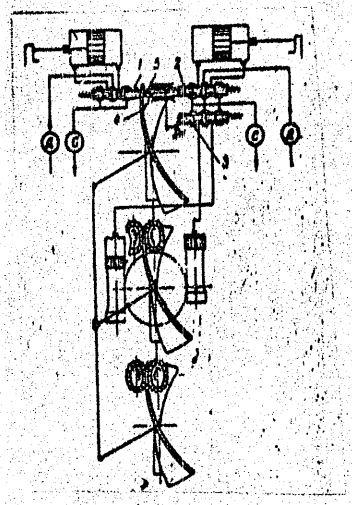

Fig. 1. 1-3--valves; 4 and 5--feeler rods

SUB CODE: IE/ SUBM DATE: 07May62/ ORIG REF: 000/ OTH REF: 000

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L 7030-66 EWT(d)/EWP(v)/EWP(t)/EWP(k)/EWP(h)/EWP(b)/EWP(l)/EWA(c) JD/HW

ACC NR: AP5026826 SOURCE CODE: UR/0286/65/000/017/0110/0110

AUTHOR: Kashkadamov, V. P.; Krichever, S. S.; Lebenson, M. Ye.; Makarov, A. A.; Sviridenko, S. Kh.; Fal'ba, N. I.

ORG: none

52

TITLE: A copy-miller for machining turbine vanes. Class 49, No. 174498

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 17, 1965, 110

TOPIC TAGS: milling machine, turbine blade

ABSTRACT: This Author's Certificate introduces a copy-miller for machining turbine vanes. The milling heads are mounted on both sides of the workpiece and move in the transverse direction with respect to the table which carries the workpiece. The forces which twist the vane during machining are reduced by equipping the miller with a hydraulic servosystem which has pickups based on slide valves. The valves direct the stream of working fluid to the activating mechanism which rotates the pieces being machined and the master copy in such a way that the surface of the master copy in contact with the feelers will be normal to the line passing through the centers of curvature of the feelers for the copy pickups. The surface of the part being machined is turned so that it is normal to the line connecting the centers of the milling cutters.

UDC: 621.914.37-503.53
621-253.5

Card 1/2

MAKAROV, A.A., inzh.

Experience in the construction of a large electric substation.
Energ.stroi. no.30:80-84 '62. (MIRA 16:2)

1. "Volgogradelektrosetstroy."
(Electric substations)

MAKAROV, A.A., inzh.; AKHMECHET, L.S., inzh.

New machine tools designed by the Special Design Bureau 3. (MIRA 15:2)
Mashinostroenie no.1:87-89 Ja-F '62.

1. Spetsial'noye konstruktorskoye byuro No.3, Odesskiy sovnarkhoz.
(Machine tools--Design)

The Design of Pulse Shapers for Computer Technology

capacitance combination to prevent double operation. A diagram shows the firing and feedback voltages with reference to the bias level and also the time intervals during which the diodes in the logical circuit are conducting. The pulses have a length of 0.35 μsec. The output voltage is between 55 and 60 V. The output resistance of the circuit with the parameters given is equal to 150 to 200 ohms and the maximum frequency is 1 Mc/s. Experimental investigation of the circuit showed that it possesses the following features: (1) the possibility of reliable direct drive from sources with high internal impedance; (2) a well defined threshold operation which is controlled by bias voltage; (3) an output signal which is independent of the amplitude and shape of the driving pulse (provided that the amplitude of the driving pulse exceeds the threshold of operation); (4) a low output resistance. There are 4 figures and 5 references: 3 Soviet and 2 non-Soviet.

SUBMITTED: April 24, 1959

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88149

S/110/60/000/002/001/005
E041/E421

9.3220

AUTHOR: Makarov, A.A., Engineer

TITLE: The Design of Pulse Shapers for Computer Technology

PERIODICAL: Vestnik elektropromyshlennosti, 1960, No.2, pp.40-43

TEXT: Pulse shaping circuits should fulfil the following two requirements: (1) the amplitude and shape of the output signals should not depend on the magnitude of the load impedance within wide limits; (2) the shaper should have a threshold of operation and signals exceeding this threshold should produce an output amplitude which is thereafter constant. Blocking oscillators form excellent means of regenerating sharp pulses but it is difficult to avoid the reaction of the blocking oscillator circuit upon the driving source. It is usual, therefore, to use the so-called discharging circuits. If complete decoupling is required, a buffer stage must be used which complicates the design and makes it more expensive. A pulse-forming circuit is proposed in which the feedback signal from the transformer and the driving pulse both have access to the grid of the valve through a logical OR circuit. The cathode circuit contains a resistance

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